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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,710	01/28/2002	Mark E. Holzbach	M-8621-1D US	7765

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EXAMINER

CURTIS, CRAIG

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,710

Applicant(s)

HOLZBACH ET AL.

Examiner

Craig H. Curtis

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

Art Unit: 2872

DETAILED ACTION

Disposition of the Instant Application

- This Office action is responsive to Applicants' Amendment B filed on 29 July 2003, which has been made of record in the file as Paper No. 6.
- By this amendment, Applicants have amended claims 1, 10, and 11.
- Claims 1-11 are currently pending in the instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- I. Claims 1-11 rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The precise manner in/by which the disclosed full-parallax autostereoscopic display & print are rendered/produced, which is critical or essential to the practice of the invention, has not been included in the claim(s) and is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). In particular, the Examiner cannot ascertain how full parallax (*parallax* being defined as: *the apparent displacement or the difference in apparent direction of an object as seen from two points not on a straight line with the object*. Merriam-Webster's Collegiate Dictionary, Tenth Ed.) can be achieved through the simulated (or actual) use of two camera frustra on *opposing* sides of an image

Art Unit: 2872

plane. That is, one would anticipate that it would be necessary to have said two camera frustra (a predetermined separation between existing between same) on one or the other side of said image plane, not diametrically disposed (i.e., disposed on opposing sides) with respect to said image plane.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halle et al.'s "Fast Computer Graphics for Rendering Full Parallax Spatial Displays" in view of Priem (5,003,497).

Halle et al. disclose the invention as claimed: A computer-implemented method of rendering data for producing a full parallax autostereoscopic display of a digital scene (See title of article), comprising the steps of (See pp. 1-7):

defining an image plane that passes through at least a portion of said scene (Fig. 1);

dividing the image plane into a plurality of contiguous image elements (Id.);

simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint (implicit; see Fig. 4));

Art Unit: 2872

defining a near clipping plane of said frustra on said image plane (See Fig. 5)

generating, for each of said elements, image data for each of said cameras; and

combining said image data, thereby rendering said scene; wherein the method is performed to produce holograms, and wherein said generating step provides holographic image data (see conclusion: lines 4 and 5); wherein said positioning step provides a single non-clipping plane distance for all of said elements, wherein said positioning step provides near clipping plane distances within a predetermined range (see Section 4, p. 109); wherein the method is performed to produce a hologram, and further comprising the step of rendering image data for said degenerate elements by special compositing of images from said camera frustra (see Section 6, pg. 110); Halle further teaches repositioning said camera frustra in a direction parallel to said image plane (see above); wherein said scene is comprised of polygons, and said determining step compares z vertices of said polygons with a z distance of said clipping plane (see Table 1; §§ 4, 5); said method further comprising the step of evaluating said image data for depth resolution and compensating said image data based on said evaluating step (see § 3)--EXCEPT FOR explicit teachings of the following additionally recited limitations:

for each image element, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of near clipping plane distances; and

positioning said camera frustra along said z axis in accordance with one or more of said near clipping plane distances.

Art Unit: 2872

Priem, however, explicitly discloses a clip checking method of, for each image element, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of a scene, thereby determining a set of near clipping plane distances. See Abstract & Figs. 1-10; also see col. 8, ll. 28-67 to col. 10, ll. 1-42. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the teachings of Halle et al. such that the clip checking method explicitly disclosed by Priem be implemented, including positioning said camera frustra along said z axis in accordance with one or more of said near clipping plane distances, for at least the purpose of achieving a desired autostereoscopic display or print of a digital scene.

Response to Arguments

3. Applicants' arguments with regard to the prior art rejection of claims 1-11 have been considered but have been rendered moot in view of the new grounds of rejection. Applicants' arguments with respect to the preambles of claims 10 and 11 not having been given patentable weight, at least insofar as said preambles set out the nature of the claims has not been found to be persuasive. Indeed, for at least the reasons set forth above regarding the rejection of claims 1-11 under 35 USC § 112, first paragraph, as being non-enabling with respect to the full-parallax nature of the claimed full-parallax autostereoscopic print and display and method, said preambles do not, notwithstanding Applicants' assertions to the contrary, breathe life and meaning into these claims. Moreover, neither the

Art Unit: 2872

preamble of claim 10 nor that of claim 11 are essential to point out the invention defined by their respective claims.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Curtis, whose telephone number is (703) 305-0776. The centralized facsimile phone number for the USPTO is (703) 872-9306.

Any inquiry of a general nature regarding the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.



**Audrey Chang
Primary Examiner
Technology Center 2800**

C.H.C.
Craig H. Curtis
Group Art Unit
30 October 2003